L&T MN2 vs MN5 Thermal Overload Relay: Complete Comparison 2026

Introduction

Thermal overload relays are one of the most important protection devices used in motor control systems. Their primary function is to protect electric motors from overheating caused by overload conditions, phase failure, or prolonged high current draw. When the current exceeds safe limits, the relay trips and disconnects the motor, preventing damage and downtime.

In industrial and OEM applications, Lauritz Knudsen (L&T) MN series thermal overload relays are widely used due to their reliability, compact design, and compatibility with MNX contactors.

Among them, MN2 and MN5 are two of the most commonly used models in India. While both belong to the same MN family and share core protection features like Class 10 trip performance and manual/auto reset options, they differ significantly in current handling capacity and application range.

This guide provides a detailed MN2 vs MN5 comparison covering specifications, overload ranges, applications, and selection criteria to help engineers, electricians, and OEM designers choose the right relay for their motor protection needs.

Quick Comparison: MN2 vs MN5

Before going into detailed specifications, here is a simple side-by-side comparison of the MN2 and MN5 thermal overload relays for quick understanding.

Feature	MN2	MN5
Operating Type	Thermal	Thermal
Current Range	0.2A – 40A (multiple variants)	9A – 110A (multiple variants)
Trip Class	Class 10	Class 10
Mounting Type	Direct mounting	Direct mounting
Reset Type	Auto / Manual	Auto / Manual
Protection Type	Overload + phase protection	Overload + phase protection
Application Level	Small motors / OEM equipment	Medium & large industrial motors

The key takeaway from this comparison is simple: MN2 is designed for lower current applications, while MN5 is built for higher industrial loads.

Lauritz Knudsen (L&T) MN2 Thermal Overload Relay

The MN2 thermal overload relay from Lauritz Knudsen is generally known for low to medium current motor protection, but it is actually more versatile than it is often assumed. Instead of being limited only to small loads, the MN2 series is designed with multiple adjustable current ranges that extend from very low values around 0.6 A up to nearly 40 A, depending on the specific model. This makes it suitable for a wide variety of motor applications within a compact frame size. Each variant within the MN2 family is built for a specific current band, allowing users to select the correct relay based on motor full-load current. In practical use, MN2 is commonly applied to motors ranging from small fractional horsepower units up to mid-sized industrial motors, typically within OEM panels and light industrial systems. For applications that exceed this range, higher frame series such as MN5 or MN12 are used to handle heavier electrical loads.

Lauritz Knudsen (L&T) MN2 Thermal Overload Relay – Technical Specification Overview

Brand: Lauritz Knudsen (L&T)

Model: MN Series (MN2 Sub Family)

Operating Type: Thermal

Overload Current Range: 0.2 A – 40 A (multiple bands)

Mounting Type: Direct Mounting

Reset Type: Auto / Manual Reset

Trip Class: Class 10

Applications of Lauritz Knudsen (L&T) MN2 Thermal Overload Relay

Industrial motor protection
Used in factories and production lines to protect motors driving conveyors, small machines, and assembly equipment from overload and overheating.

Pumps and compressors
Commonly applied in water pumps, submersible motors, and small compressors to prevent damage during heavy or continuous loading conditions.

HVAC systems
Used in ventilation, cooling, and air handling units to safeguard fan and blower motors from thermal stress and extended operation loads.

Material handling equipment
Installed in systems like small cranes, hoists, and lifting equipment where motors may face sudden load changes or mechanical strain.

Agriculture and water systems
Widely used in irrigation pumps and water treatment setups to handle fluctuating loads and ensure reliable motor protection in field conditions.

Most Popular Lauritz Knudsen (L&T) MN2 Thermal Overload Relays in Demand

1. **Lauritz Knudsen (Formerly L&T Switchgear) MN 2 Thermal Overload Relay | SS94144OODO**

Key Technical Specifications

Reference No	SS94144OODO
Manufacturer Product Name	Lauritz Knudsen MN 2 Thermal Overload Relay 14-23A 415V AC Class 10A
Overload Range	14 - 23 A
Mounting Type	Direct Mounting
Reset Type	Auto/Manual Reset
Trip Class	Class 10
Operating Type	Thermal

2. **Lauritz Knudsen (Formerly L&T Switchgear) MN 2 Thermal Overload Relay | SS94141OOPO**

Key Technical Specifications

Reference No	SS94141OOPO
Manufacturer Product Name	Lauritz Knudsen MN 2 Thermal Overload Relay 1.4-2.3A 415V AC Class 10A
Overload Range	1.4 - 2.3 A
Mounting Type	Direct Mounting

Reset Type	Auto/Manual Reset
Trip Class	Class 10
Operating Type	Thermal

3. **[Lauritz Knudsen (Formerly L&T Switchgear) MN 2 Thermal Overload Relay | SS94141OOSO]**

Key Technical Specifications

Reference No	SS94141OOSO
Manufacturer Product Name	Lauritz Knudsen MN 2 Thermal Overload Relay 3-5A 415V AC Class 10A
Overload Range	3 - 5 A
Mounting Type	Direct Mounting
Reset Type	Auto/Manual Reset
Trip Class	Class 10
Operating Type	Thermal

Lauritz Knudsen (L&T) MN5 Thermal Overload Relay

The MN5 thermal overload relay from Lauritz Knudsen is designed for medium to high current motor protection, making it suitable for more demanding industrial applications compared to lower frame sizes. It operates as a Class 10 thermal relay, which means it protects electric motors by disconnecting the control circuit when it detects sustained overload or single-phasing conditions. This prevents motor overheating and potential winding damage during abnormal operating conditions.

Unlike smaller relay variants, the MN5 series is built to handle heavier electrical loads and is commonly used where motors operate under continuous or high-torque conditions. It acts as a reliable safety barrier in motor control systems, ensuring that excessive current draw does not lead to equipment failure or downtime. Because of its higher current handling capability, MN5 is typically selected for industrial setups where motor reliability and protection under load stress are critical.

Lauritz Knudsen (L&T) MN5 Thermal Overload Relay – Technical Specification Overview

Brand: Lauritz Knudsen (L&T)

Model: MN Series (MN5 Sub Family)

Operating Type: Thermal (bimetallic)

Overload Current Range: 9 A – 110 A (multiple adjustable bands)

Trip Class: Class 10A

Protection Functions: Overload protection and single-phasing protection

Mounting Type: Direct mounting on MNX contactors

Reset Type: Auto / Manual Reset

Applications of Lauritz Knudsen (L&T) MN5 Thermal Overload Relay

- **Industrial motor protection**
  Used in manufacturing plants and production lines to protect three-phase motors driving heavy machinery from overload and phase failure.
- **Water and wastewater systems**
  Commonly applied in pump stations and compressor setups to prevent motor overheating during continuous or fluctuating load conditions.
- **HVAC and refrigeration systems**
  Used in air handling units, chillers, and large cooling systems to ensure safe and uninterrupted motor operation.
- **Material handling equipment**
  Protects motors used in conveyors, hoists, elevators, and automated handling systems that face frequent load variations.
- **Agriculture and irrigation systems**
  Used in farm pumps and irrigation machinery where motors operate in remote or unstable power conditions.
- **Motor Control Centers (MCCs)**
  Installed inside centralized industrial control panels for compact and reliable motor protection across multiple circuits.

Most Popular Lauritz Knudsen (L&T) MN5 Thermal Overload Relays in Demand

4. **Lauritz Knudsen (Formerly L&T Switchgear) MN 5 Thermal Overload Relay | SS94137OOJO**

Key Technical Specifications

Reference No	SS94137OOJO
Manufacturer Product Name	Lauritz Knudsen MN 5 Thermal Overload Relay 45-75A 415V AC Class 10A
Overload Range	45 - 75 A
Mounting Type	Direct Mounting
Reset Type	Auto/Manual Reset
Trip Class	Class 10
Operating Type	Thermal

5. **Lauritz Knudsen (Formerly L&T Switchgear) MN 5 Thermal Overload Relay | SS94135OODO**

Key Technical Specifications

Reference No	SS94135OODO
Manufacturer Product Name	Lauritz Knudsen MN 5 Thermal Overload Relay 14-23A 415V AC Class 10A
Overload Range	14 - 23 A
Mounting Type	Direct Mounting
Reset Type	Auto/Manual Reset
Trip Class	Class 10
Operating Type	Thermal

6. **Lauritz Knudsen (Formerly L&T Switchgear) MN 5 Thermal Overload Relay | SS94136OOEO**

Key Technical Specifications

Reference No	SS94136OOEO
Manufacturer Product Name	Lauritz Knudsen MN 5 Thermal Overload Relay 20-33A 415V AC Class 10A
Overload Range	20 - 33 A
Mounting Type	Direct Mounting
Reset Type	Auto/Manual Reset
Trip Class	Class 10
Operating Type	Thermal

Which Should You Choose?

- **Choose MN2 if:**
  Your motor current requirement is up to 40A and the application involves small to medium loads. It is ideal for OEM panels, compact machinery, and projects where cost efficiency and space-saving design are important.
- **Choose MN5 if:**
  Your motor current falls in the range of 9A to 110A and the application is industrial or heavy-duty in nature. It is best suited for pumps, compressors, conveyors, and other continuous-load systems requiring higher reliability.
- **Consider MN12 if:**
  Your application involves very high-power motors beyond the MN5 range, typically in large industrial machinery or heavy engineering systems where higher current handling and robust protection are required.

Conclusion

The MN2 and MN5 thermal overload relays from Lauritz Knudsen are both reliable motor protection solutions, but they are designed for different levels of industrial application. The MN2 is best suited for low to medium current motors used in OEM equipment and compact control panels, where precise protection and space

efficiency are important. On the other hand, the MN5 is built for medium to high current applications, making it ideal for industrial machinery, pumps, compressors, and other heavy-duty systems that demand stronger load-handling capability.

Selecting the right relay ultimately depends on the motor full-load current and the nature of the application. Choosing correctly not only ensures effective overload protection but also improves motor life, system reliability, and overall operational safety.

FAQ’s

What is the main difference between MN2 and MN5?
MN2 is designed for low to medium current motors, while MN5 is built for medium to high current industrial motors. The difference mainly lies in their current handling capacity.

What is the current range of MN2 and MN5?
MN2 typically covers up to around 40A, whereas MN5 covers a higher range from about 9A to 110A, making it suitable for heavier loads.

What is the significance of Class 10 / 10A in MN2 and MN5?
Class 10/10A defines the tripping time characteristic, meaning the relay will trip within a standardized time under overload conditions to protect motor windings from thermal damage.

Which model is more cost-effective for contractors and panel builders?
MN2 is more cost-effective for OEMs and panel builders working with small to medium motor loads, helping reduce overall project cost.

Which model has higher demand in the market?
MN2 generally has broader demand across OEM and light industry, while MN5 demand is concentrated in industrial infrastructure and plant applications.